INSTRUCTIONS

-J03457 REV. 06-01-04

Kit Number 41777-05

CHROME REAR MASTER CYLINDER KIT

General

The Chrome Rear Master Cylinder Kit fits 2005 and later Touring model motorcycles.

See the Service Parts illustration for a list of the items contained in this kit.

Installation of this kit will require the following additional parts:

Steel/rubber washers (2), (Part No. 41371-01)

Wheel bearing grease (Part No. 99855-89)

Brake pedal O-rings (2) (Part No. 11364)

These parts are available separately from any Harley-Davidson dealer.

In addition to the additional parts, Loctite Threadlocker 243 (blue) is also required for installation.

⚠WARNING

The rider's safety depends upon the correct installation of this kit. Use the appropriate service manual procedures. if the procedure is not within your capabilities or you do not have the correct tools, have a Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury. (00333a)

NOTE

This instruction sheet references Service Manual information. A Service Manual for your model motorcycle is required for this installation and is available from any Harley-Davidson Dealer.

Installation

Removal

⚠WARNING

To prevent accidental vehicle start-up, which could cause death or serious injury, disconnect negative (-) battery cable before proceeding. (00048a)

1. Refer to the Owner's Manual and follow the instructions given to remove the seat and disconnect the negative battery cable.
2. **For Touring models w/fairing lowers:** Remove right side lower fairing and right side saddlebag. See Service Manual for procedure.
3. Access the rear brake bleeder valve. See Owners Manual or Service Manual for procedure.

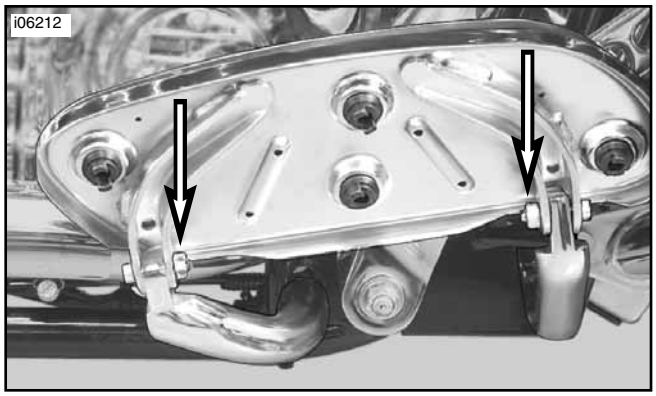


Figure 1. Footboard Pivot Bolts and Locknuts

4. Install end of clear plastic tubing over rear caliper bleeder valve. Place the free end in a suitable container.

⚠WARNING

Be sure that no lubricant gets on rear tire, wheel or brakes when changing fluid. Traction can be adversely affected which could result in loss of control of the motorcycle and death or serious injury. (00047b)

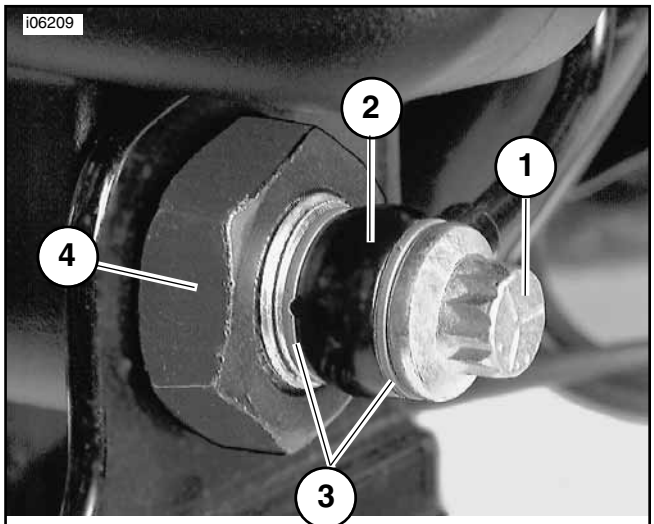
5. Open bleeder valve 1/2 turn and pump brake pedal to drain brake fluid. Close bleeder valve.
6. See Figure 1. Remove the 2 right side footboard pivot bolts and locknuts to remove the footboard.
7. Place a suitable container under the rear brake master cylinder/reservoir.

CAUTION

Remove brake line components carefully. Damage to seating surfaces can cause leakage (00320a)

8. See Figure 2. Remove banjo bolt (1) and 2 steel/rubber washers (3) to disconnect brake line banjo fitting (2).

9. Drain brake line in container and secure brake line as required. Discard steel/rubber washers.



1. **Banjo bolt**
2. **Banjo line fitting**
3. **Steel / rubber washer**
4. **Hex nut**

Figure 2. Banjo Fitting

NOTE

If necessary to access hex nut (4), release rear brake line from frame clips to move banjo fitting forward. See Service Manual for brake line routing and frame clip locations.

10. Using 1 - 1/8 in. wrench, remove hex nut to free master cylinder assembly from mounting bracket.

11. See Figure 3. Remove brake pedal/master cylinder assembly. Remove locknut with flat washer to free brake pedal/master cylinder assembly from brake pedal spindle welded to frame.

12. Remove and discard o-rings on each side of brake pedal shaft bore. Retain 2 brake lever bushings.

Disassembly

1. See Figure 4. Remove cotter pin (1) and flat washer (2) from clevis pin.

2. Supporting rear brake pedal/master cylinder assembly in vise, tap out clevis pin (3) using a brass drift and remove master cylinder assembly from brake pedal flange.

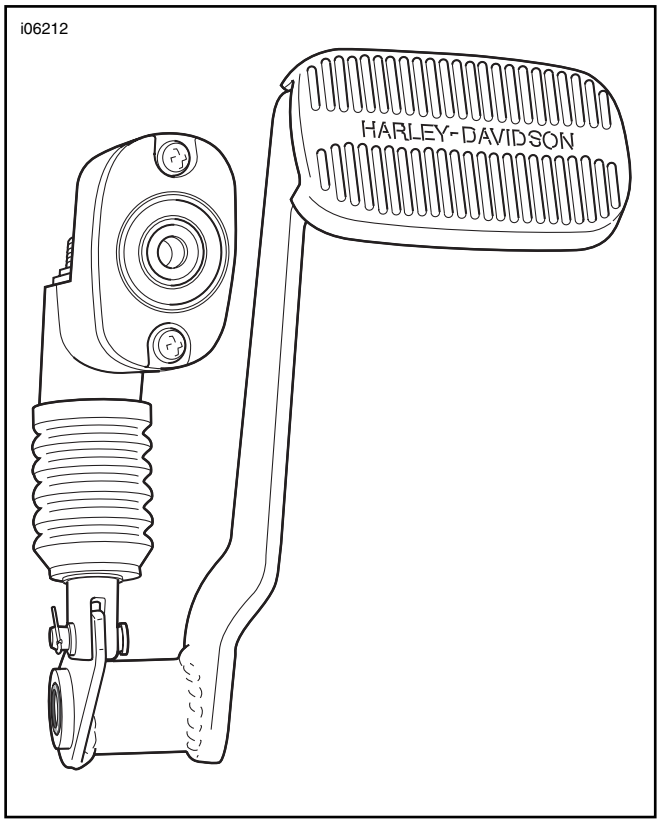
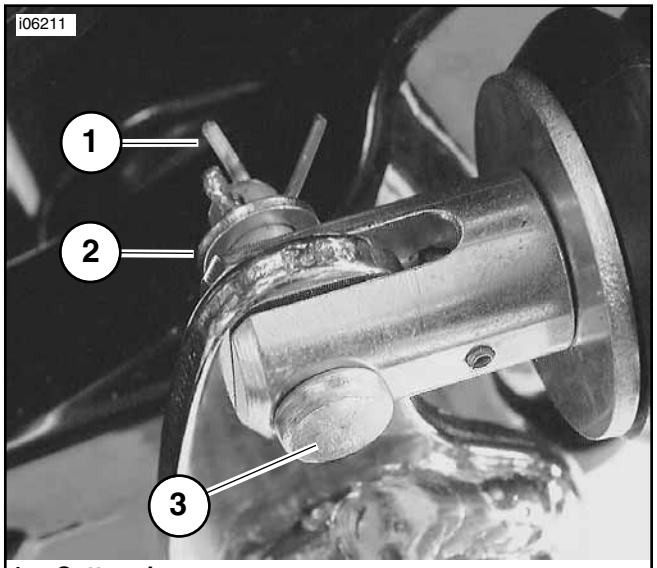


Figure 3. Brake Pedal/Master Cylinder Assembly



1. **Cotter pin**
2. **Flat washer**
3. **Clevis pin**

Figure 4. Master Cylinder Push Rod to Brake Pedal

Assembly

NOTE

Do not disassemble the master cylinder, the pedal return spring, boot and retainer. The master cylinder assembly is completely assembled and installed in the reservoir cylinder assembly.

⚠WARNING

Use denatured alcohol to clean brake system components. Do not use mineral base solvents (such as gasoline or paint thinner) which will deteriorate rubber parts even after assembly. Deterioration of these components can cause brake failure, which could result in death or serious injury. (00291a)

1. Obtain **new** master cylinder/reservoir assembly from kit.
2. Clean new master cylinder/reservoir assembly, cover and cover gasket with denatured alcohol or D.O.T. 4 SILICONE BRAKE FLUID. Wipe dry with a clean, lint free cloth.
3. Install two screws from the kit to fasten the cover to the reservoir. Finger tighten the screws**.**
4. Install master cylinder/reservoir to brake pedal flange.
5. Supporting the assembly with out damaging the chrome finish, tap in clevis pin using a brass drift. Install flat washer and cotter pin on clevis pin.
6. Apply a light coat of Wheel Bearing Grease (Part No. 99855-89) to the brake pedal shaft and bore.
7. Install a **new** O-ring on each side of bushings in brake pedal shaft bore.

Installation

1. Install brake pedal/master cylinder assembly on the pedal spindle while fitting collar on cartridge body into square-shaped hole in mounting bracket.
2. See Figure 3. Install brake pedal to brake pedal spindle.

   Install flat washer and new locknut. Tighten to 15-20 ft-lbs` (20-27 Nm).
3. Thread on hex nut capturing cartridge to mounting flange. Tighten the hex nut to 30-40 ft-lbs (41-54 Nm).
4. Obtain banjo bolt and two **new** steel/rubber washers.
5. Install hydraulic line to master cylinder/reservoir using banjo bolt with washer oriented on each side of banjo fitting. Tighten banjo bolt to 17-22 ft-lbs (23-31 Nm).
6. Install footboard with pivot bolts and nuts so that the nuts are on the inboard side. Tighten nuts to 84-108 in-lbs (9.5-12.2 Nm).

Bleeding Rear Brake

⚠WARNING

Be sure that no lubricant gets on rear tire, wheel or brakes when changing fluid. Traction can be adversely affected which could result in loss of control of the motorcycle and death or serious injury. (00047b)

NOTES

Hydraulic brake fluid bladder-type pressure equipment can be used to fill brake master cylinder through the bleeder valve. Remove master cylinder reservoir cover so that system cannot pressurize. Do not use pressure bleeding equipment when the hydraulic system is sealed with master cylinder reservoir cover and gasket in place.

1. Close the bleeder valve on the rear caliper.
2. If removed, return a length of plastic tubing over caliper bleeder valve. Place free end of tube in a clean container.
3. Stand motorcycle upright. clean and remove cover to master cylinder reservoir.

CAUTION

Direct contact of D.O.T. 4 brake fluid with eyes can cause irritation. Avoid eye contact. In case of eye contact flush with large amounts of water and get medical attention. Swallowing large amounts of D.O.T. 4 brake fluid can cause digestive discomfort. If swallowed, obtain medical attention. Use in well ventilated area. KEEP OUT OF REACH OF CHILDREN. (00240a)

⚠WARNING

Use only fresh, uncontaminated D.O.T. 4 brake fluid. Fluid containers that have been opened may have been contaminated by dirt or moisture. Use of contaminated brake fluid may adversely affect braking ability and lead to brake failure which could result in death or serious injury.

⚠WARNING

Never mix D.O.T 4 with other brake fluids (such as D.O.T. 5). Mixing different types of fluid may adversely affect braking ability and lead to brake failure which could result in death or serious injury.

4. Repeat the following until all air bubbles are purged and pure brake fluid flows from the brake line.
   a. Add fresh D.O.T. 4 to master cylinder reservoir until the fluid level is 1/8 in. (3.2 mm) from the top.
   b. Press and hold brake pedal to build up hydraulic pressure.
   c. Open bleeder valve slowly about 1/2 turn counterclockwise. Brake fluid and air bubbles will flow from bleeder valve and through tubing.
   d. When pedal has moved 1/2 to 3/4 of its full range of travel, close bleeder valve (clockwise). Allow brake lever to return slowly to its released position.
5. When all air bubbles have been purged, verify fluid level in reservoir at 1/8 in. (3.2 mm) from the top.

6. Remove clear plastic tubing and tighten bleeder valve to 9.0-11.3 NM (80-100 **in-lbs**) Install bleeder valve cap.

7. Attach cover to master cylinder reservoir. Tighten screws to 0.7-0.9 Nm (6-8 **in-lbs**).

NOTE

The sight glass enables the rider to visually check the brake fluid level without removing the master cylinder cover. When the reservoir is full, the sight glass is dark. As the fluid level drops, the glass lightens up to indicate this condition to the rider.

Final Assembly and Test Ride

1. Re-install all brackets and saddlebag removed to access the rear brake calipers and the bleeder valve. See Service Manual for procedure.

2. **For Touring models w/fairing lowers:** Install lower fairings. See Service Manual for procedure.

⚠WARNING

After installing seat, pull upward on front of seat to be sure it is in locked position. While riding, a loose seat can shift causing loss of control, which could result in death or serious injury. (00070a)

3. Refer to the Owner's Manual and follow the instructions given to re-attach the negative battery cable and install the seat.

4. With the ignition/light key switch turned to IGNITION, actuate the rear brake pedal to verify operation of the brake lamp.

⚠WARNING

After servicing the brake system, test brakes at low speed. If brakes are not operating properly, testing at high speeds can cause loss of control, which could result in death or serious injury. (00289a)

5. Test ride the motorcycle. If the brake feels spongy, repeat the rear brake bleeding procedure.

Service Parts

Part No. 41777-05 | Date 06/04

Chrome Rear Master Cylinder Kit

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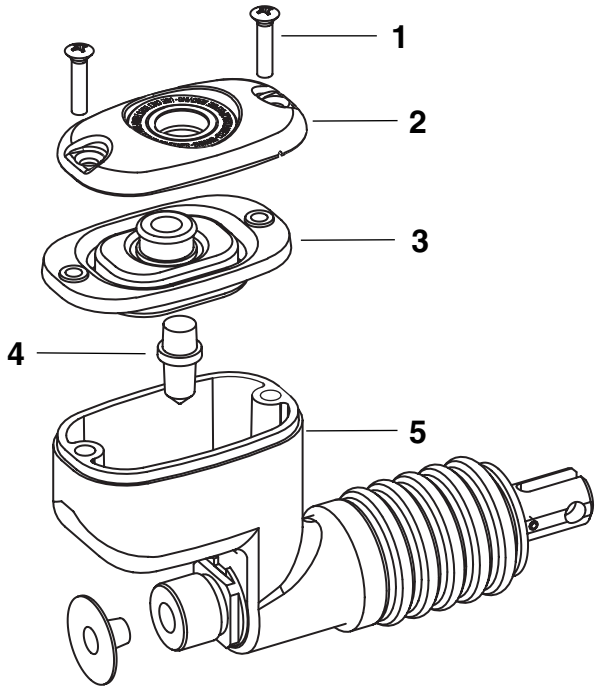

Item	Description (Quantity)	Part No.
1	Stainless steel screw (2)	2573
2	Reservoir cover	46421-05
3	Cover gasket	42455-99
4	Sight glass	45042-05
5	Rear master cylinder reservoir assembly	41776-04